

THE CLAIMS

What is claimed is:

1. A method for inspecting a golf ball comprising the steps of:
 - providing a golf ball comprising a core having a first diameter and at least one cover layer having a first thickness;
 - securing said golf ball in a measuring holder;
 - providing an x-ray source having a spot size and an intensity optimized for detecting the edge of the golf ball core or cover layer, the first diameter, or the first thickness, the x-ray intensity being between about 25 and about 75 kV;
 - reducing the x-ray spot size to less than about 0.01 inches by 0.01 inches such that a resulting band of unsharpness is no greater than about 0.010 inches; and
 - capturing an x-ray image of the golf ball about at least one axis.
2. The method of claim 1, wherein the x-ray intensity is between about 30 and about 60 kV.
3. The method of claim 2, wherein the x-ray intensity is between about 35 and about 50 kV.
4. The method of claim 1, wherein the x-ray has a spot size of less than about 0.005 inches by 0.005 inches.
5. The method of claim 1, further comprising the steps of:
 - providing at least one marker placed within the measuring holder;
 - abutting the golf ball against said at least one marker;
 - rotating the golf ball about at least one axis;
 - capturing an image of the marker; and
 - determining the eccentricity of the golf ball.
6. The method of claim 5, wherein the step of determining the eccentricity comprises the step of measuring the distance from the at least one marker to an outer surface of the core as the ball rotates about the single axis.

7. The method of claim 5, wherein the distance between the marker and the core surface are used to determine the cover thickness.
8. The method of claim 5, wherein the marker is opaque to x-rays.
9. The method of claim 5, wherein the marker is metal.
10. The method of claim 9, wherein the metal is aluminum, copper, steel, titanium, or a mixture thereof.
11. The method of claim 5, further comprising at least two markers oriented to measure different axes.
12. The method of claim 5, wherein the core and the marker have a first and second center and the distance between the two is calculated at predetermined intervals to determine concentricity of the core.
13. The method of claim 1, wherein the x-ray intensity is a first intensity greater than a second intensity required to detect the cover material, the first and second intensities being different in an amount such that the cover is transparent at the first intensity.
14. The method of claim 1, wherein the cover has a first opacity and the core has a second opacity different from the first.
15. The method of claim 1, wherein the core comprises a center and an outer core layer.
16. A method for inspecting a golf ball comprising the steps of:
 - providing a golf ball comprising a core and a cover;
 - providing an x-ray source having a spot size and an intensity optimized for detecting the edge of the golf ball core or layer, the intensity being between about 25 and about 75 kV;

reducing the x-ray spot size to less than about 0.01 inches by 0.01 inches such that a band of unsharpness is no greater than about 0.010 inches; and
capturing an x-ray image of the golf ball.